ABSTRACT:

The invention relates to a ferroelectric device (10) with a body (11) comprising a substrate (1) and a ferroelectric layer (2) provided with a connection conductor (3) on a side facing away from the substrate (1), which ferroelectric layer contains an oxygen-free ferroelectric material (2) and is used to form an active electrical element (4), in particular a memory element (4). Such a device forms an attractive non-volatile memory device. In accordance with the invention, a conductive layer (5) is present between the substrate (1) and the ferroelectric layer (2), which conductive layer forms a further connection conductor (5) of the ferroelectric layer (2), and the active electrical element (4) is obtained as a result of the fact that the ferroelectric layer (2) forms a Schottky junction with at least one of the connection conductors (3, 5). In practice it has been found that such a device (10) comprises a well-performing memory element (4) that can be readily formed on a, preferably monocrystalline, silicon substrate (1). Preferably, the device (10) further comprises a field effect transistor (6), and the element (4) is preferably situated above the source or drain region (7) of the transistor (6). The active element also may function as a diode.

Fig. 1